


GROWING TOWARDS NEW HEIGHTS



TOWARDS NEW HEIGHTS	3
WHO WE ARE	4
OUR STRATEGY	26
OUR FOUNDATIONS	42

Towards new heights

2022 will be remembered as a year of recovery for the aeronautical industry. As we look back, we are proud to reflect on the progress that Sonaca has made despite the challenges faced. These included managing a significant volume increase, the fall-out of the war in Ukraine, the energy crisis, inflation, and continued supply chain disruptions. Through it all, our teams have worked tirelessly to exceed our objectives and continue to serve our customers without fail.

Sonaca Group's revenues in 2022 reached 596 Meur showing significant progress compared to last year and on target to achieve our pre-COVID level in 2025. Our EBITDA has substantially improved, standing at 46 Meur compared to 15 Meur in 2021. Additionally, Sonaca generated a positive free cash flow of 37 Meur, compared to 17 Meur in 2021.

This year also saw our first successes resulting from implementing our strategic plan. Of note was the selection of Sonaca and its partners to develop a European counter-measure system against hypersonic missiles (HYDEF), the launch of an ambitious digital transformation starting in Gosselies, the groundbreaking for our new building to assemble the F-35A hori-

zontal tail, and crucially, the shaping of a sustainability roadmap which has become the backbone of Sonaca's culture.

Sonaca is committed to continuing our growth journey while maintaining our superior operational and financial performance. We remain dedicated to proactively contributing to decarbonizing the aviation industry in the years and decades to come.



YVES PRETE
CHAIRMAN OF SONACA GROUP



YVES DELATTE
CEO OF SONACA GROUP

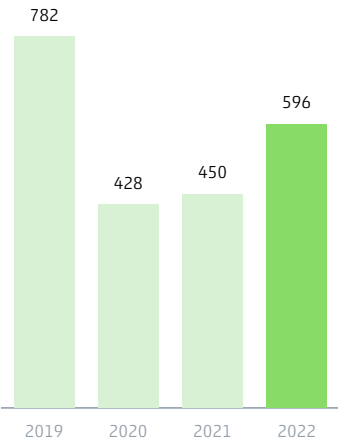
WHO
WE ARE



Key figures

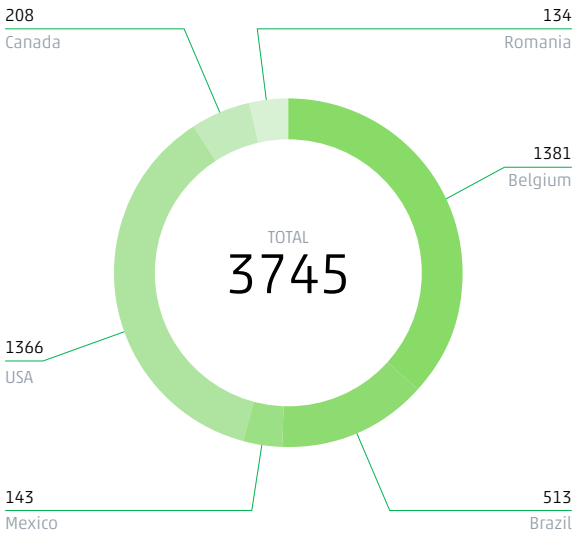
REVENUES

in millions of euros



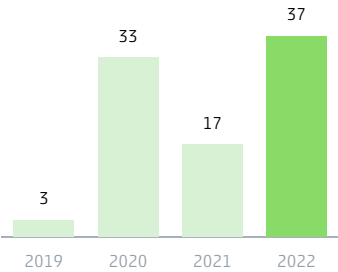
HUMAN RESOURCES

People



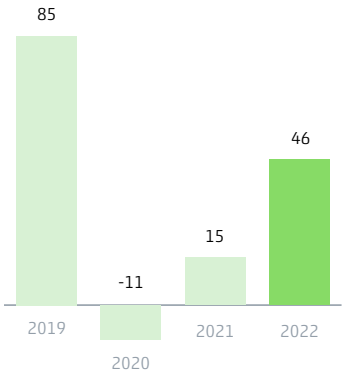
FREE CASH FLOW

in millions of euros



EBITDA

in millions of euros



Our Vision & Mission

THE CULTURE AT SONACA

Our company culture is based on strong values that guide each of our actions.

We are convinced that to achieve our ambitious vision of making air and space safe and sustainable, it is essential to work as a **team** by collaborating in a joint, transparent and respectful way to anticipate, react and respond rigorously to our **customers** and partner's needs.



We meet our **responsibilities** by delivering on our commitments and learning from our experiences to constantly strive for **excellence** and improve ourselves. Indeed, our energy and creativity are deployed to achieve outstanding results, challenging the status quo and showing adaptability and perseverance.

Integrity is at the heart of our culture. By acting with honesty, respecting people and rules without ever compromising on safety and quality.

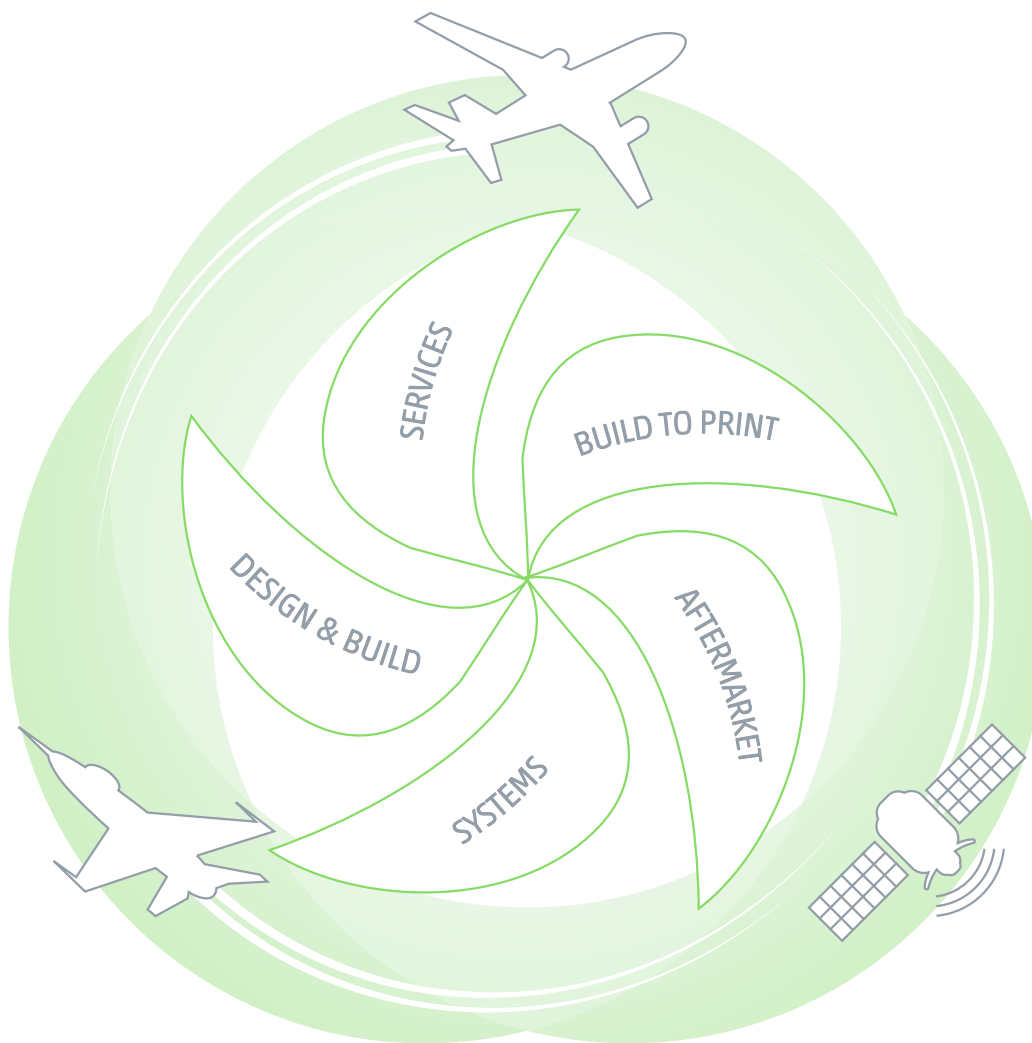
At Sonaca, we are proud of this strong culture that allows us to meet our customers' expectations around the world by developing and delivering innovative solutions for aerospace and defense markets through engineering and operational excellence.

Let's reach new heights together by making air and space safe and sustainable!





We support 3 business lines through 5 products lines



COMMERCIAL & BUSINESS JETS

Leading Tier-1 player in aerospace industry

With uncontested leadership and recognized expertise in wing moveable and complex fuselage sections, Sonaca is proud to have a long-lasting history with most major OEM's with on an average of 30 years journey with our customers. Sonaca is present on all major platforms, often in single source lifetime partnership. To prepare the future, Sonaca has already engaged significant partnerships based on disruptive products and technologies, anchored sustainability, and driven by search of competitiveness and supported by continuous research and technology.

2022 resulted in major achievements to both securing existing relationships but also expanding through the development of new relationships to pave the future. Talking about existing relationships, on the North American front the commercial team has first secured lifetime contracts on two major packages respectively on the CL350 and Global 550/650 programs,

but also reached an agreement to pursue build to print activities up to 2031 with a major customer. On the European side, Sonaca has also reached an agreement to secure up to 2027 our participation onto the A220 program. Focusing now on the business development side, we have been honored to be granted several new contracts for production out at Sonaca Brasil mainly on the A320 and A350 programs. These additional collaborations on a high production rate programs bear witness to the renewed confidence from our long-lasting customers.







DEFENSE

Strengthening Sonaca position in the defense market

In accordance with its strategic plan, Sonaca has strong ambitions in the defense market.

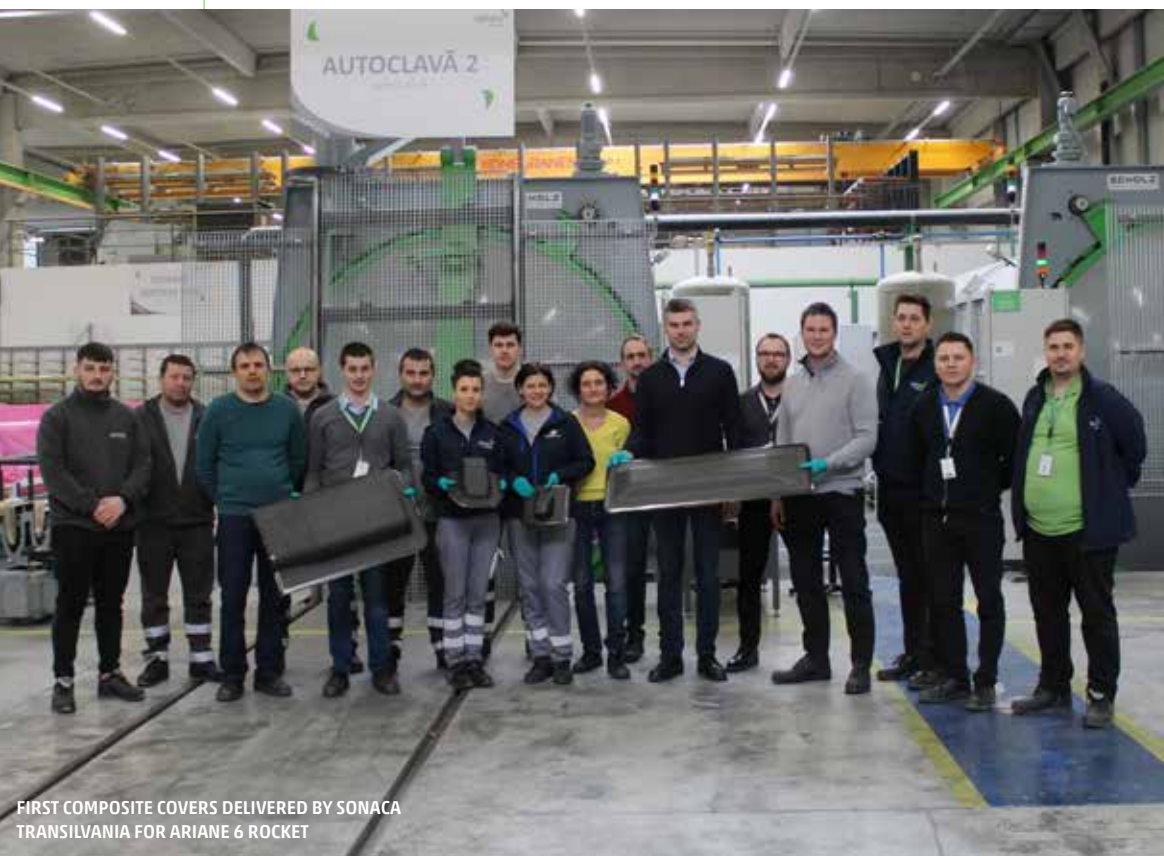
Two main streams have been developed in 2022: the activities related to the F-35A acquisition by Belgian Government and the restoration of close contacts with Belgian Defense, Belgian Government and European Institutions to prepare the future of the European Defense.

Regarding the F-35A, the strategic horizontal tail project, developed under the essential security interests legal framework set up by Belgian Government, started at high speed with an active collaboration with Lockheed Martin and BAE Systems. Despite significant technical challenges such as defense security compliant new building with critical temperature and vibration control, acquisition of top-notch milling, surfacing and assembly machine, implementation of a full digital factory, the first item delivery is scheduled for mid-2025.

Final commercial agreements will be closed with BAE Systems in 2023, with a first batch of production. The delivery will reach a minimum of 400 horizontal tails sets for the F-35A Foreign Military Sales through a joint venture with Asco and Sabca: BelLightning.

Alongside this flagship program, Sonaca and Lockheed Martin started to work closely to ensure that interesting business opportunities are offered to Sonaca North America by the Supply Chain Management for their multiple platforms. This was already showing results with Sonaca North America gaining new contracts.

Finally, as a key player in the defense market, Sonaca is now part of the Board of BSDI (Belgian Security Defense Industry) biggest Belgian Defense and Security Association, within AGORIA.



FIRST COMPOSITE COVERS DELIVERED BY SONACA
TRANSILVANIA FOR ARIANE 6 ROCKET

SPACE

Ambitious growth strategy serving Sonaca's thrive towards systems

The year 2022 has been characterized by Sonaca participation to several large-scale programs such as the Space Lunar Gateway, the Ariane 6 launcher and with a special success for Sonaca contribution to the successful flight of the Orion capsule around the Moon, thanks to the Artemis-1 flight. In addition to these exciting developments, several innovative ESA-funded R&D projects have been conducted to keep Sonaca know-how at the top of its game.

Sonaca space activities are diversified across most of the space segment, with contributions to launchers, satellites, and human space habitats.

Sonaca space business unit ambitions are to continue inspiring through exciting projects, pushing our technical expertise limits thanks to the harshness of the space environment, and developing new business opportunities by leveraging all Sonaca footprint.



Committed to serve through 5 product lines

BUILT TO PRINT

Through its global footprint with production sites near its customers in Europe, North and South America, Sonaca provides fully integrated solutions to challenging problems from concept to detailed engineering and manufacturing.

Sonaca has a long-lasting outstanding track record in built to print, combined with one-stop shop industrial capabilities specialized in metallic and composite supplies. With unique capabilities in machining, stretch forming, metal bonding but also world class composites manufacturer with advanced out of autoclave and automatic tape laying facilities, Sonaca is widely recognized by its customers.

DESIGN & BUILD

Providing safe, sustainable, reliable and innovative solutions is our commitment. We develop and certify aerostructures, space structures and ice protection systems for all major OEMs. From conceptual design to in-service product support, for both metallic and composite structures, our experienced and worldwide teams cover the full range of development skills: design, structural analysis, certification, materials and processes, system engineering, configuration, prototypes, ground and flight testing as well as industrialization. Sonaca is able to adapt its solution through its 3 business lines.

SYSTEMS

Although, historically, Sonaca expertise has been grounded in structural parts and assemblies, it has progressively developed a substantial knowledge in specific systems, in relation to its structural products. As an important part of its strategy, Sonaca has decided to significantly expand its expertise and offering in systems. Products and projects are being taken to the next level of excellence, such as the electric ice protection system, which could be the first step towards SMART morphing structures.

SERVICES

Sonaca Engineering Services performed well in 2022 collecting new projects & successes. Serving its growing base of up to 90 customers, 24 of Sonaca Engineering Services proposals were successful in 2022. These awards brought 4 additional customers and covered various areas of activity, including advanced aerostructures development, mechanical testing, energy and project management. Among these, an important project has been started for a 2 years aerostructures development for a major OEM. Another project gave Sonaca the opportunity to demonstrate its exceptional numerical capabilities once again. In order to address recurring wear issues, advanced studies were performed on flap mechanisms. Virtual testing based on numerical modelling of mechanical elements, that were integrated into the aircraft global model, resulted in a very accurate prediction of the mechanisms dynamic behaviour and led to the avoidance of significant repair costs for the customer. A new service line has also been introduced in 2022 which allows Sonaca to offer "Flight Test Services" such as: airborne testing, development flight tests, surveillance, customized solutions, sensor integration, data processing with our own platform or customer's platform.



AFTERMARKET

Serving its customers all along product life 2022 has been a year that bodes well for the aftermarket activities led by Sonaca Aviation Services. The team is supporting Sonaca's customers in their in-service activities by providing spare parts, engineering consulting, maintenance and repair activities. Approved by Aviation Authorities according to EASA Part 145 and FAA Part 145 for many years, Sonaca expanded its offer by getting a Design Organization Approval for modifications and repairs, allowing to offer new solutions to our customers. Sonaca Aviation Services has also elevated its activities at Sonaca Group level, enabling our subsidiary Sonaca Brasil to deliver spare parts with an Authorised Release Certificate, thereby increasing global reactivity. Sonaca Aviation Services team commits to satisfy internal and external customers and is constantly striving to improve its processes to meet their needs and exceed their expectations.



Sonaca a keyplayer for main western aircraft for many years



39 YEARS

- A320 Family
- A330/340
- A350
- A380
- A220
- A400M



69 YEARS

- B737
- B767
- B777
- B787



20 YEARS

- Falcon 2000
- F7X/F8X



11 YEARS

- PC24



30 YEARS

- G280
- G500/600
- G650
- G700/800



30 YEARS

- Challenger 350/3500
- Challenger 650
- Global 5500/6500
- Global 7500/8000



30 YEARS

Phenom 300
Legacy/Praetor 500/600
ERJ 145
E1 170-175-190-195
E2 175-190-195
KC390



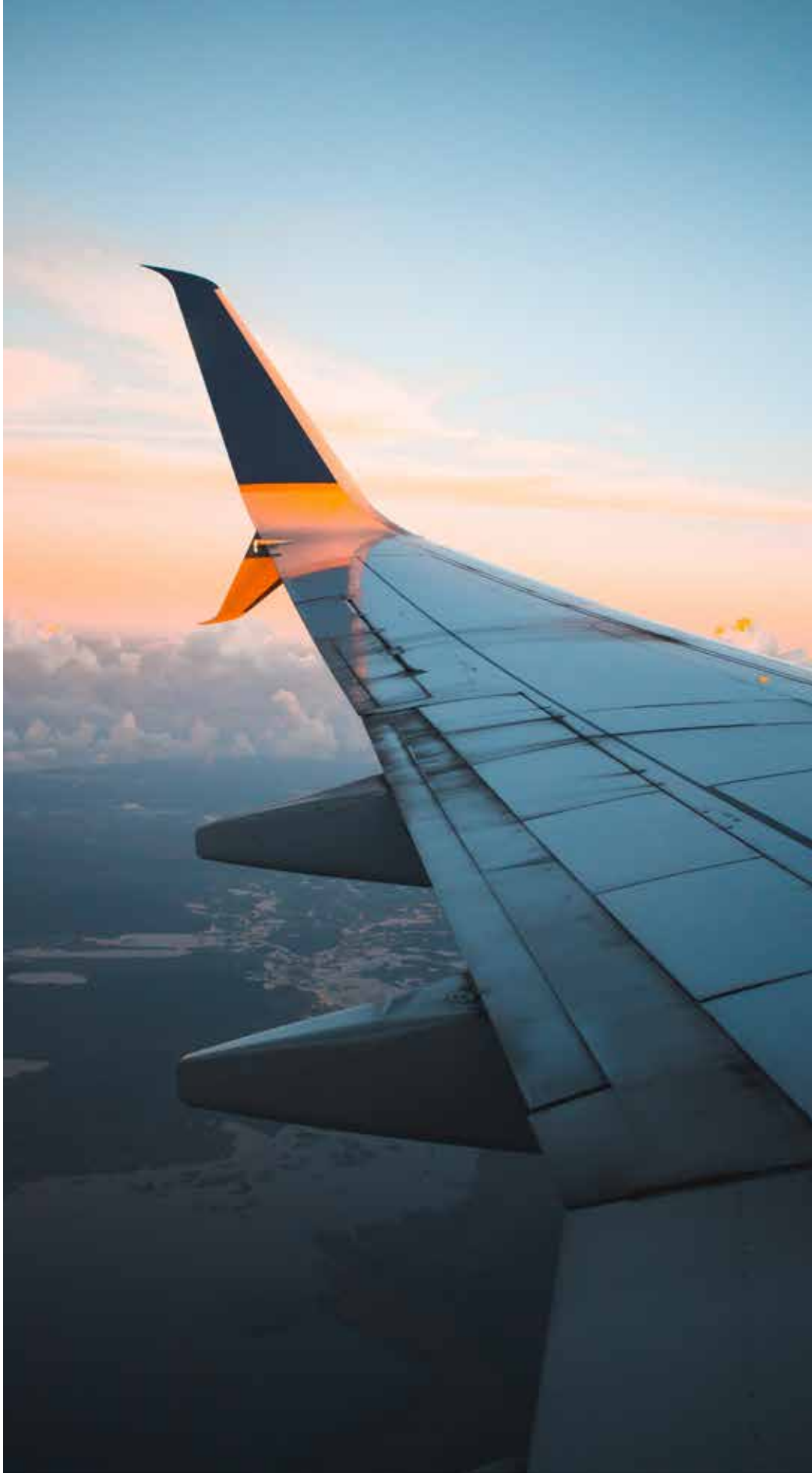
8 YEARS

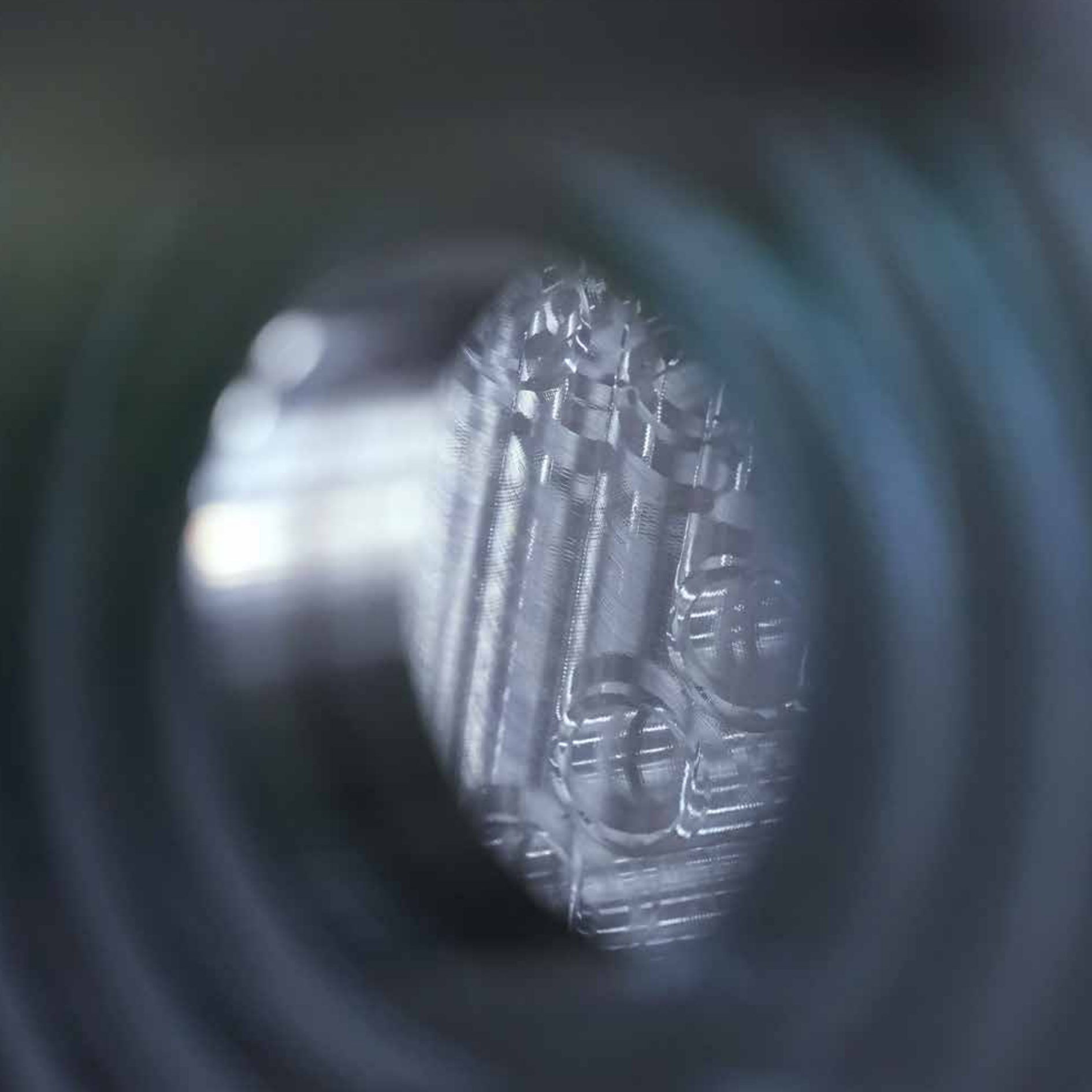
HondaJet



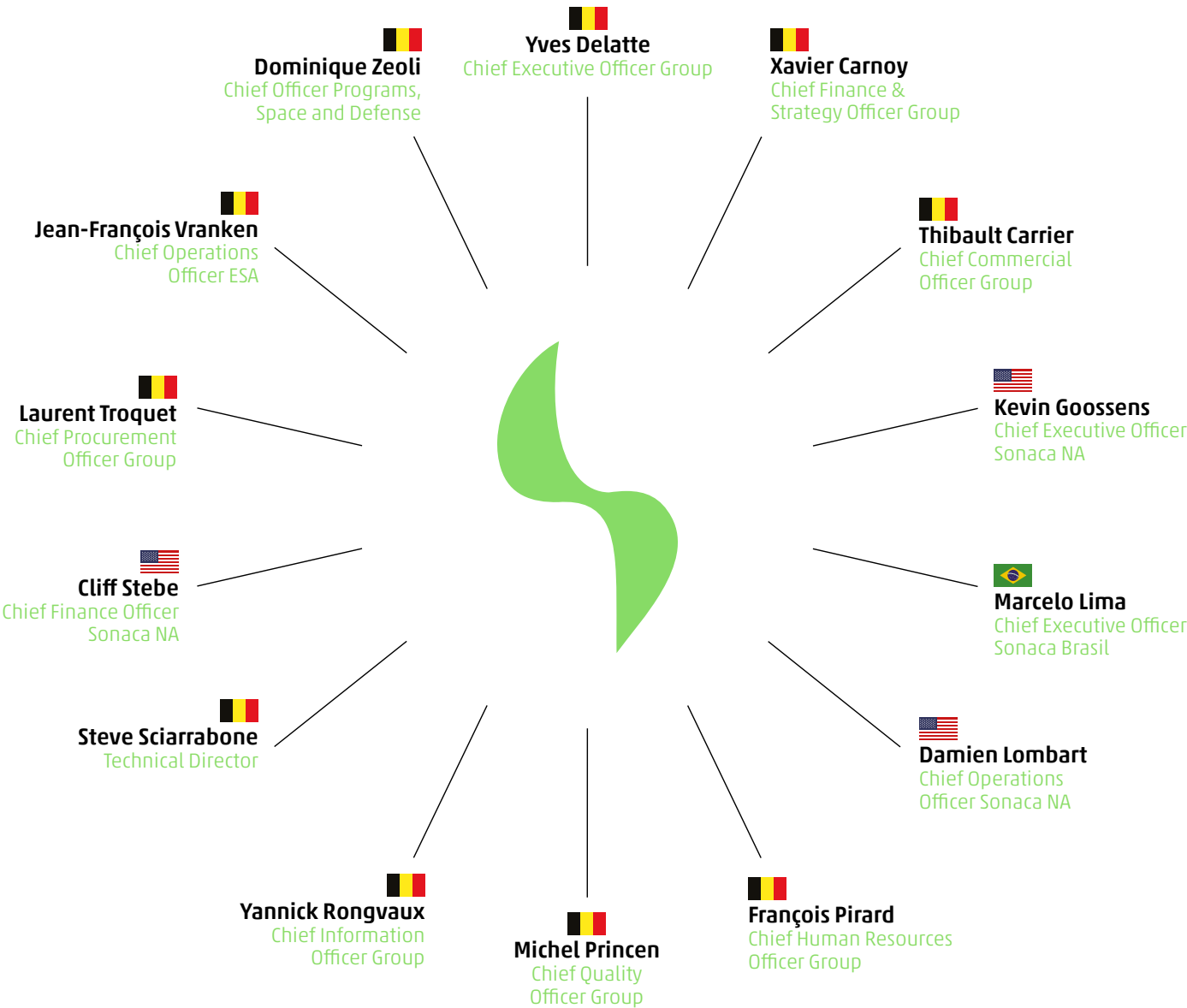
26 YEARS

GX5000





Sonaca Group leadership team



Sonaca global footprint

SONACA NORTH AMERICA

Canada:

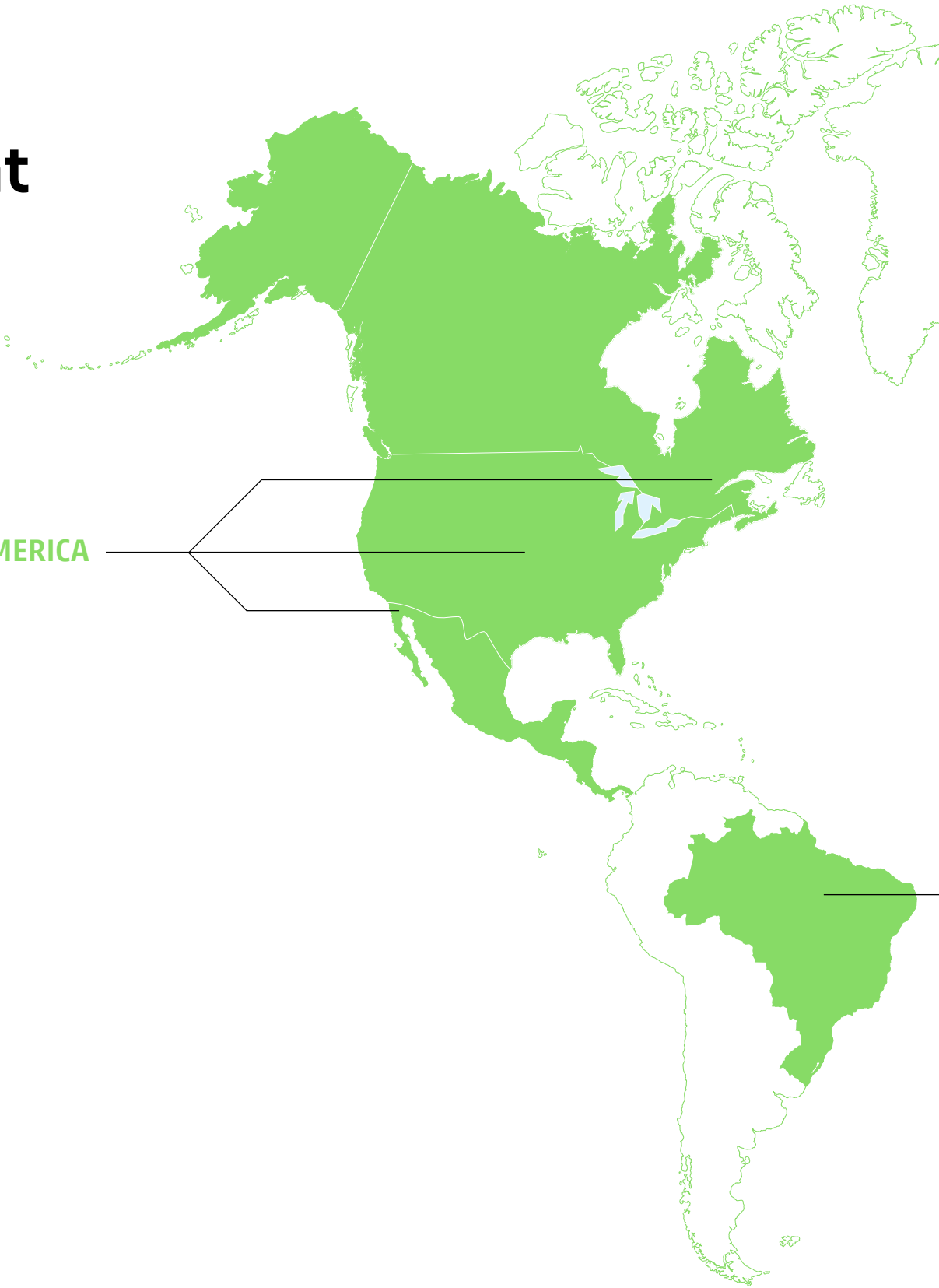
Sonaca Montreal, QC

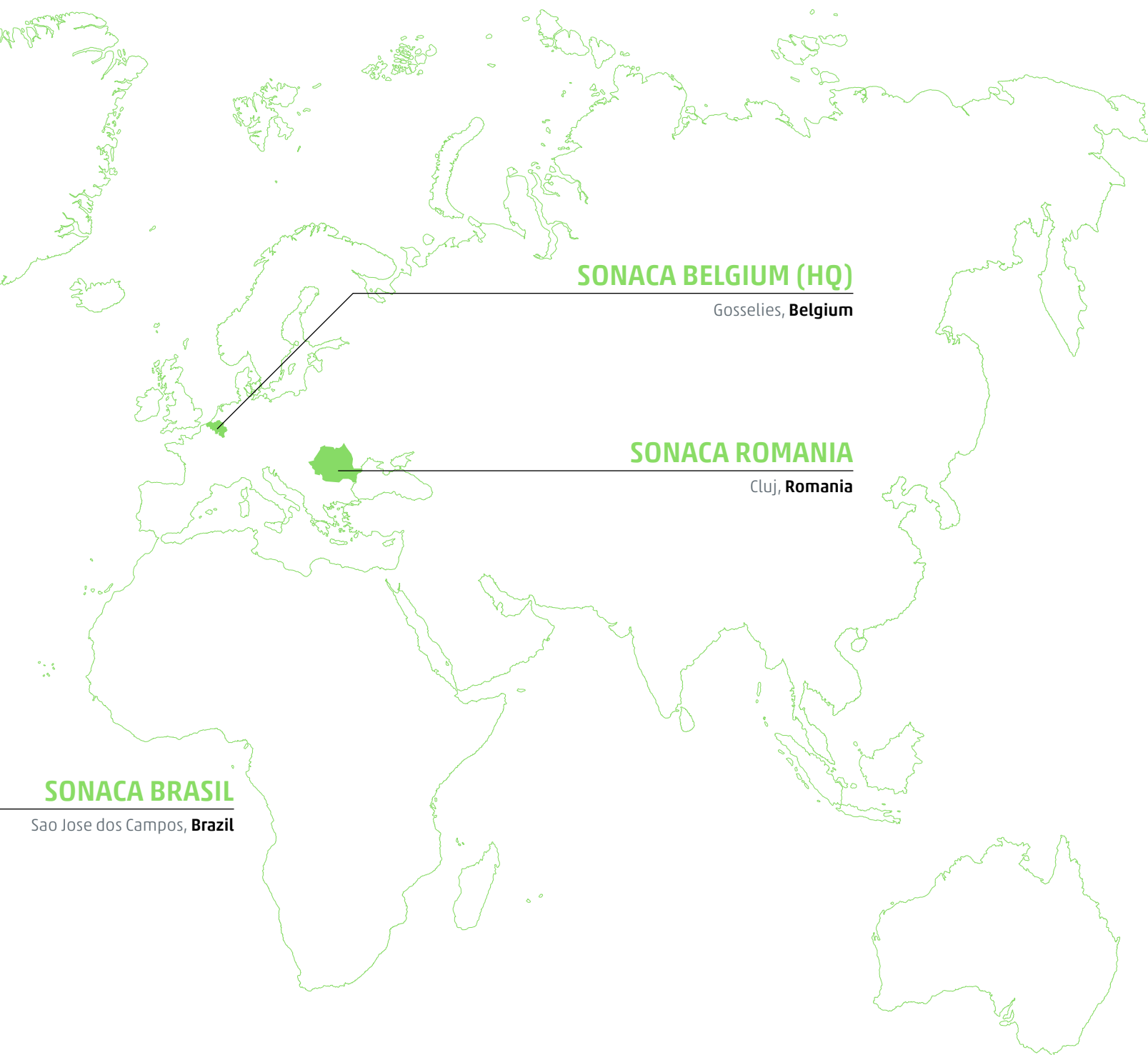
United States of America:

- St. Charles, MO
- Washington, MO
- Cuba, MO
- Lenexa, KS
- Cottonwood Falls, KS
- Wichita, KS
- Fredonia, KS
- Tulsa, OK
- Auburn, WA
- Vista, CA
- Sun Valley, CA

Mexico:

Mexicali, BC





SONACA BRASIL

Sao Jose dos Campos, **Brazil**

SONACA BELGIUM (HQ)

Gosselies, **Belgium**

SONACA ROMANIA

Cluj, **Romania**



New organization for Sonaca North America

Across our entities around the globe, we share common values. We are fully committed to continue adhering to these values across our entities and the countries we operate in, and we will continue striving to serve our customers with best-in-industry standards.

To reflect and radiate our common values across the globe, we have decided to align our company names under a single Sonaca brand worldwide with LMI Aerospace and Sonaca Montreal becoming Sonaca North America.

This further integration within Sonaca will procure to the North American branch a worldwide visibility towards the OEM's. The gathering of all our facilities under one single banner will translate, for our customers, into a strategic and competitive advantage. From a competitiveness standpoint, Sonaca North America will benefit from the variety of technologies owned by Sonaca ESA (Europe & South America) as well as the redundancy of the production capabilities brought through the integration. This last element will position Sonaca among the top 10 of the leading aerospace companies offering the possibility of double sourcing within the group. We are proud to say that now, we're together, a global united Sonaca.





OPERATORS WORKING WITH
DMS MACHINE



The background is a dark green field with several diagonal stripes of varying shades of green. On the right side, there is a metallic-looking panel with some small dark spots and a curved edge at the top right.

OUR STRATEGY



CONTRACT ADMINISTRATORS TEAM UP



Nurturing our core business



CUSTOMER RELATIONSHIP

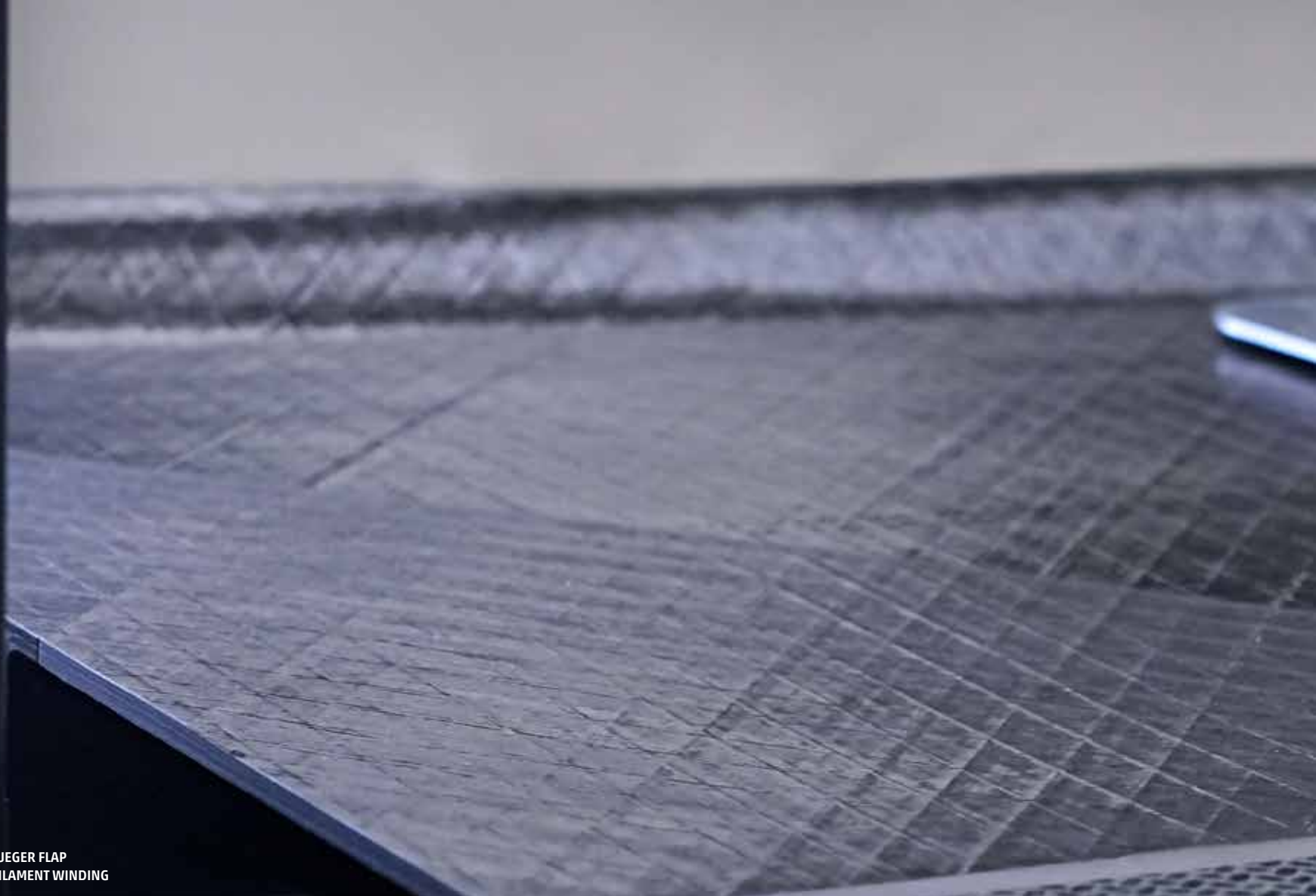
At Sonaca, we are proud of the customers we serve. We have the privilege to work for all majors OEM and super tier-ones for all types of aircraft: Airbus, Boeing, Embraer, Bombardier, Dassault, Gulfstream, Honda Jet, Mitsubishi Aircraft and Pilatus.

Our core competencies are wing slats, flaps, ailerons, fixed leading edges, mechanisms, de-icing systems, fuselages, engine pylons, aerostructure composite parts and aerostructure metallic.

Sonaca has been serving those largest manufacturers for many years now. After the covid years, Sonaca teams were happy to reconnect with the market, customers and partners around the world with face-to-face exchanges, but also during Farnborough airshow. Maintaining and growing those relationships is key to us. More than ever, we make a point of honor to support and accompany our customers. Close collaboration nurtures collective willingness to share and address our industry challenges in the most efficient way but also paves the way for future collaborations.

The group and all the talents that make it up are ready to face the industry ramp up, to meet customers' expectations and to support existing and future platforms.





INNOVATIVE KRUEGER FLAP
PRODUCED BY FILAMENT WINDING

BEST IN-CLASS ENGINEERING

Engineering is deeply part of Sonaca DNA with more than 40 years' experience. We develop and certify aerostructures, space structures and ice protection systems for all major OEMs. Additionally, we are Design Authority on all our Design&Build products, we acquired advanced numerical analysis and virtual testing capabil-

ities, as well as extensive experience in composites.

With its DOA certificate, Sonaca is now entitled to classify changes and repairs, approve minor changes and repairs on large and small aircraft for a series of products including: flight control surfaces, movables,

fuselage, equipment supports and wings. The scope also includes minor changes and repairs of ice protection systems.

Investing in research and technology is key to remain state-of-the-art in terms of aerospace design and engineering. At Sonaca, 45 engineers are committed to paving the



way for the future by pursuing a sustainable and greener aircraft, improving our competitiveness, and reaching high production rates. Amongst all achievements, some of them can be highlighted: the high aerodynamic performance slats, the use of artificial intelligence to significantly optimize material and energy consumption

during parts machining, the introduction of silent leading edges, the development of an electric de-icing system with low consumption and CO2 emissions.

Our expertise, recognized by our customers, makes Sonaca a strong and reliable design and build partner.

OPERATIONAL EXCELLENCE

To achieve its ambitions, Sonaca strives for operational excellence to respond to increasing volumes, demanding customers requirement and costs pressure. In a ramp-up and crisis context at both supply and logistics levels, our integrated approach has ensured we deliver to our customers on time the highest quality products.

Our operational teams across the globe implemented several initiatives to reinforce collaborations over the global Sonaca footprint. The aerostructure department was reorganized, and the groundwork was laid for the challenge of digital transformation. This will enable us to monitor, react, predict and above all avoid pitfalls,

with the ambition of reducing operating costs and increasing the performance of operations.

With the deployment of sustainable development as part of our strategy, a range of initiatives have also been implemented to reduce our gas and electricity consumption with already 582 MWh savings for the last quarter of 2022.

Finally, the first concrete was poured for the state of the art plant that will be dedicated to the assembly of the horizontal tailplane of the F-35A, Lockheed Martin's 5th generation combat aircraft, at the Goselies site in Belgium.



AUTOMATIC NONDESTRUCTIVE TEST
OF COMPOSITE TRAILING EDGE

TOUCH UP FOR SLAT
FINAL OPERATION





Diversifying our activities



DEFENSE

Given Fairey's legacy, Sonaca has been firmly rooted in the defense sector since the 1930s. With the help of Belgian Defense and Government decisions, Sonaca's defense DNA has strongly developed with programs such as the F16 or the A400M. Although Sonaca has focused on its commercial business over the last decade, its strategic plan sets a strong ambition to regain its former level of activity in the defense market and to significantly expand and diversify in the coming years. One recent example that illustrates such ambition, and that can be publicly shared is described below.

In the last couple of years, the aerial threats spectrum has been quickly evolving towards highly maneuverable, hypersonic vehicles. In this context, the European Defense Fund (EDF) has released a call for proposal to investigate and define a concept for a European Interceptor able to neutralize such emerging new threats, including upcoming

ones for the next decade. This project is exploring new technologies (e.g., Propulsion, Aerodynamics, Advanced Guidance, Leading Edge Sensors, Aerodynamics and Actuators...) to achieve the highest maneuverability and capability.

In July 2022, the European Defense Fund has selected a consortium of 14 companies, in seven countries to develop a European HYpersonic DEFense Interceptor (HYDEF) concept to address these new threats, during a 3-year long project. Sonaca is proud to be a major partner of the consortium and to actively participate to the project, where Sonaca will bring its extensive expertise in aerostructures and advanced materials. As lead partner for the airframe, Sonaca will bring innovative solutions for the design, thermal management, choice of advanced materials and structures for high loads and temperatures, as well as for aerodynamic efficiency.



SPACE

Sonaca experience in exploration projects started back in the 1980s with the participation in the Hermes program. Since then, Sonaca has contributed to several European flagships programs by providing structures for the International Space Station, high performance satellites (Aeolus, MetOp SG, CSO...), or the Ariane launchers. As part of its strategic plan, Sonaca will continue to deliver ambitious programs to more customers, confirming the strong position of Belgium in space and significantly growing outside Europe. Its portfolio will continue to expand through organic growth as well as through new external collaboration to bring to the market innovative products that will complement its legacy space structure activity.

In the last quarter of 2022, Sonaca has entered in discussion with an international space mission partner and a robotics, satellite systems and geo-intelligence pioneer, to provide subsystems that will operate aboard the Space Lunar Gateway, a deep space outpost that will orbit the Moon beginning in the mid-2020s, supporting both human and robotic missions to the lunar surface, serving as a science laboratory, and acting as a proving ground for exploration missions into deeper space.

Sonaca is proud to be part of such an ambitious mission and contribute to the human exploration of our Moon and beyond.

EARTH VIEWED FROM SPACE







SOLITHOR CELL BATTERY POUCH

SYSTEMS

In accordance with its strategy, Sonaca intends to significantly expand its expertise and offer systems. Sonaca will also bring its expertise in airflow control and Computational Fluid Dynamics to the development of these and other systems. Sonaca will grow as a DOA by introducing systems into its scope of work. Sonaca will ultimately deliver strongly integrated structure/systems product that will set new standards in terms of weight efficiency, in-service reliability and total cost of ownership.

As one example, a partnership has been signed with the Belgian company SOLiTHOR, in line with the goal to proactively contribute to the development of a low-carbon aircraft by 2035 and to achieve carbon neutrality by 2050. Sonaca and SOLiTHOR have joined their strengths to provide the next generation solid-state battery systems technologies. They will jointly develop safe, high-density rechargeable solid-state Lithium battery systems for regional aircraft and urban air mobility, with the possibility to extend to space and defense markets.

HUW HAMPSON-JONES AND DR
FANNY BARDÉ, CEO AND CTO
SOLITHOR WITH YVES DELATTE,
CEO SONACA



ADVANCED AIR MOBILITY

Air mobility has tremendously evolved over the last few years. New flying vehicles appear alongside conventional aircraft. These include airships and urban air mobility vehicles, or flying taxis, two new segments of interest for Sonaca.

We believe in the future of airships for transport of large and heavy loads in remote areas, more sustainable than trucks or helicopters because they use less energy and do not need roads to convey their load. For such innovative developments, the structure is an important part of the airship. Sonaca, with its expertise, can offer solutions to design, optimize and efficiently manufacture this structure. We are therefore investing in R&T to develop dedicated design tools and have been selected by the French company FLYING WHALES to collaborate on the development of their airship, the LCA60T.

eVTOL (electric Vertical Take-Off and Landing) vehicles are a second segment of interest: there are many new developments of small flying vehicles, generally with electric or hybrid-electric propulsion and capable of taking-off and landing on short runways. We also believe in the future of urban air mobility, which will shake up the aerospace world in one way or another, and we are ready to work with the OEMs on structural components and systems. One of the major challenges for these eVTOL vehicles will be to produce at high rates, well beyond standard aerospace standards, while maintaining aerospace quality standards. Weight requirements will also mean that most structures will be composite: the technology of highly integrated composite components, developed by Sonaca for over 10 years, thanks to the use of SQRTM and ATL processes, is clearly up to the challenge.



FLYING WHALES RIGID AIRSHIP
LCA60T IN OPERATIONS

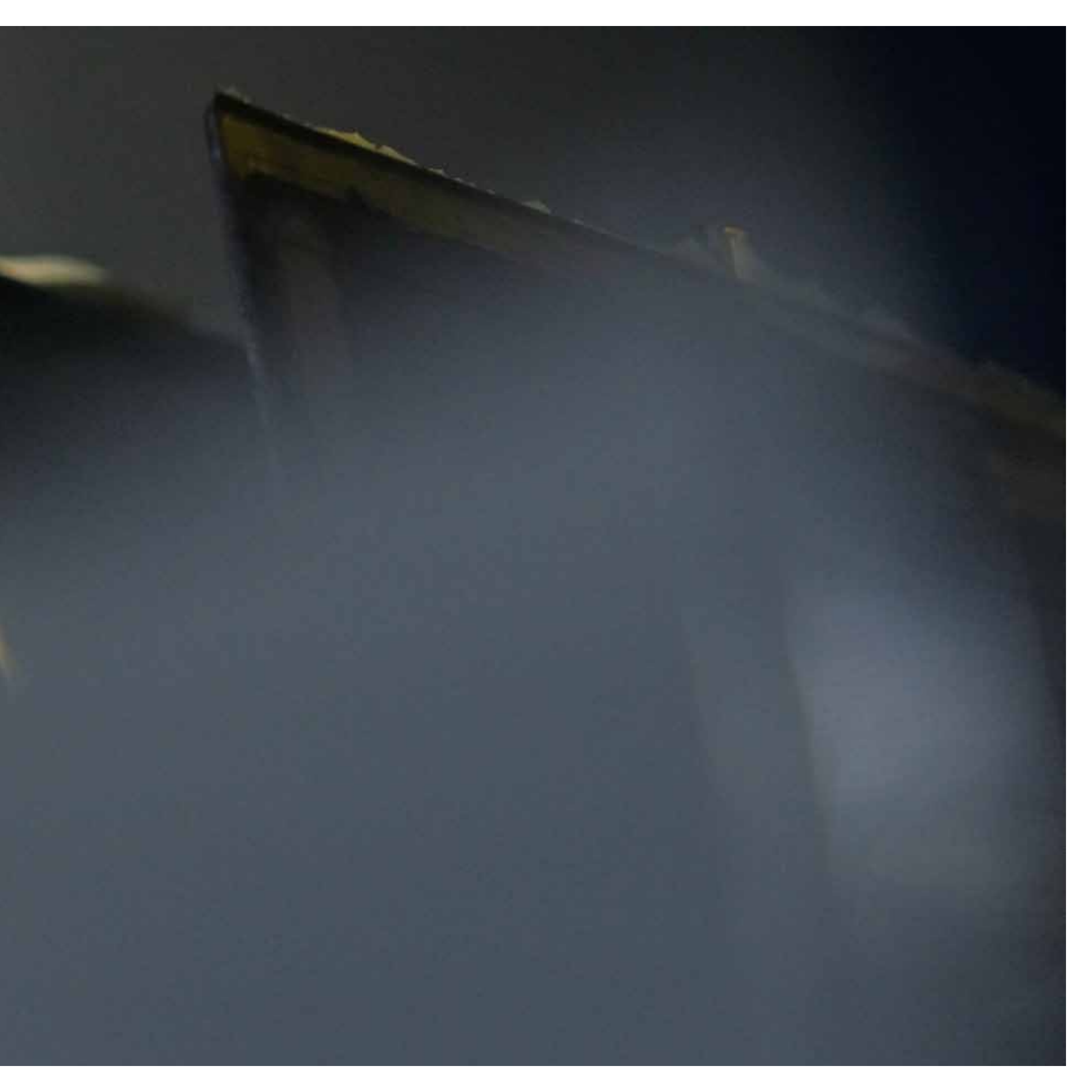


FLYING WHALES AIRSHIP
IN OPERATION





OUR FOUNDATIONS



Building a sustainable future

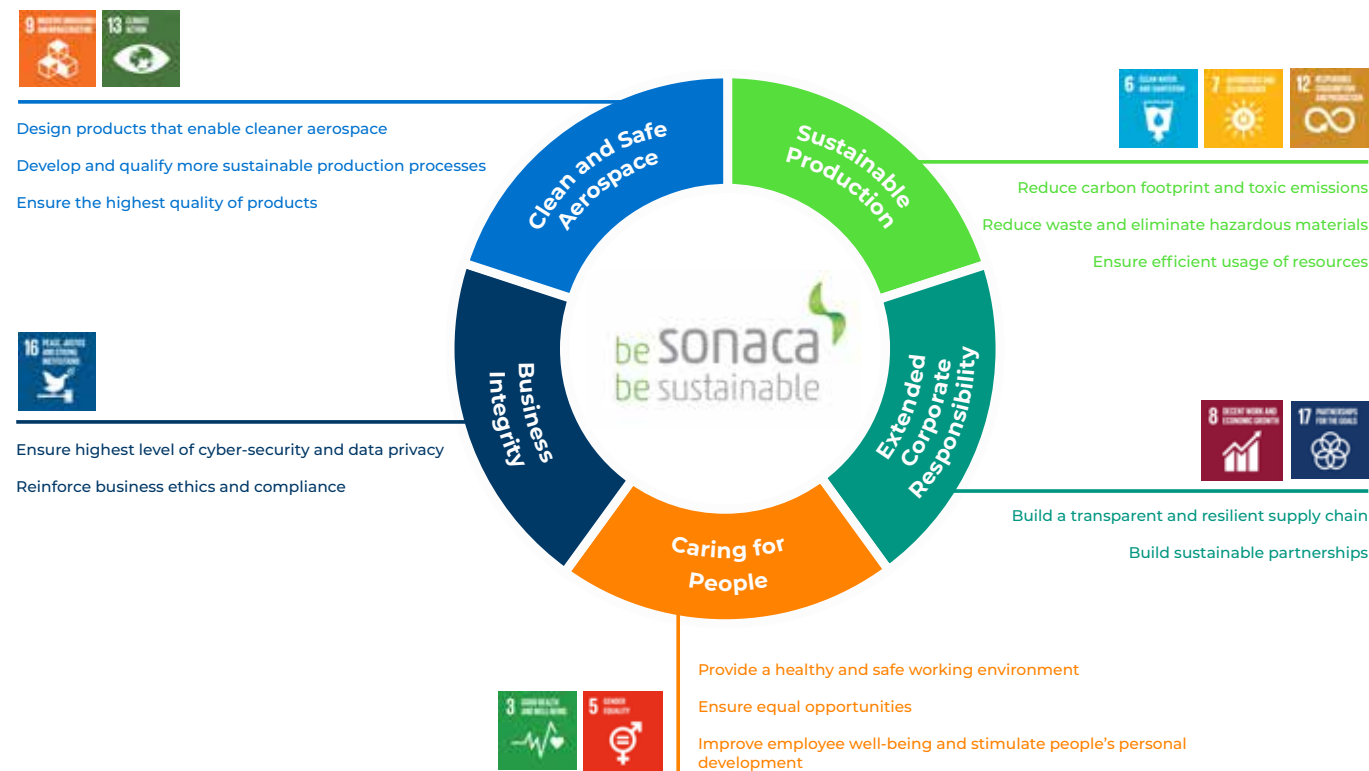
Sonaca is bringing sustainability a priority in its agenda. To achieve its ambitions, the project team has set up first steps on this journey by developing our roadmap for the next 5+ years. This roadmap has been developed around the following 5 sustainability axes: Clean & Safe Aerospace, Sustainable Production, Extended Corporate Responsibility, Caring for People, and Business Integrity.

Project team priorities are first, to develop a comprehensive sustainability strategy and, second, to ensure the implementation of defined actions throughout the entire organisation. Priorities have been identified with the intent to focus on the challenges that have the most impact for Sonaca.

We have launched a project to reduce our CO2 emissions by getting all our employees on board for this challenge. This project

has already led to energy savings in 2022 and we will continue these efforts with a global diagnosis of the performance of our major equipments and buildings. Thanks to these efforts, we have already reduced our CO2 emission by 15% compared to the previous year (TCO2/hr produced).

Today, Sonaca through its ambitious strategy, is committed sustainability objectives and priorities in line with the roadmap.





SUSTAINABILITY
TEAM WORKSHOP

Digitalizing our operations

Digitalizing our operations has three main objectives: satisfying our customers with reliable on-time delivery, optimizing our costs by improving our processes and integrating end-to-end product traceability.

To this extent, 2022 has set the official launch of the implementation of a Manufacturing Execution System (MES) and several digital initiatives development.

Fiche technique Read (FTRead) project has been deployed in our detailed parts manufacturing plants to ensure online availability of the technical sheets. Integrated supply chain management (ISCM) was developed to improve data management at all stages of operations. A valuable asset of digital transformation, machine connectivity is in the pilot phase on a Handtmann machining center to monitor the overall equipment effectiveness in real-time and collect shopfloor information to initiate the improvement loop.

The Push Pull System, a patented system, developed internally with the intent to track the

stocks of our products inside returnable boxes used for customers. Geolocation of stock and boxes, followed through a web portal, allows real-time management of in and out logistic flows and replenishment between Sonaca and our customers. This system is of great added value for our customers.

Finally, the MES project will implement Apriso in our machining plant and into the F-35 plant, currently under construction in close partnership with Dassault Systèmes. The aim is to fully digitalize production, providing access to all operational and technical information from our different systems and connected machines. This solution will facilitate monitoring production flows, ensure end-to-end traceability of our products and facilitate the continuous improvement of our processes.

With Dassault Systèmes and Dymasco, as integrators specialized in Industry 4.0, Sonaca relies on experienced and recognized technological partners for their digital solutions in our aeronautics sector.

4.0 INDUSTRY



Fostering our Talents in Sonaca



Talents are one of the main foundations of our 2022-2025 strategic plan and a key to ensure its success.

The implementation of a new talent management approach at group level started in 2022, with the ambition to offer each employee the necessary conditions for their personal and professional development.

We have identified key roles in the organization to conduct a deep dive analysis to ensure that people are in the right place to develop, blossom and deliver our strategy.

To get there, we got an alignment on how we assess talents, how we prepare them to access critical roles by creating a robust succession plan and understand current gaps based on the insights and defined priorities for 2023.

We are convinced that this talent management approach will create a sense of purpose and will improve the long-term retention of our talented people.



sonaca



sonaca





sonaca.com

